

1. Amendments to the Claims:

A clean version of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR § 1.121(c)(3). This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A three dimensional ultrasound imaging device, comprising:
an interpolator that interpolates three-dimensional ~~volumes derived from~~ ultrasound image data corresponding to at least two sequential detected images in an image data stream to obtain at least one interpolated three-dimensional volume, providing up sampled three-dimensional volumes in a time dimension for increasing frame rates; and
~~— a memory that stores at least one of the ultrasound image data and the up sampled three-dimensional volumes.~~

2. (Previously presented) The ultrasound imaging device of claim 1, further comprising:

a probe that sends ultrasound waves, gathers reflected ultrasound waves and creates the ultrasound image data; and

a processor that converts the ultrasound image data to the three-dimensional volumes.

3. (Previously presented) The ultrasound imaging device of claim 1, further comprising:

a display that displays the up sampled three-dimensional volumes.

4. (Currently amended) The ultrasound imaging device of claim 1, wherein the interpolation comprises at least one of interpolating ultrasound-image data corresponding to 2 three-dimensional volumes sequential detected images to 4 three-dimensional volumes, interpolating ultrasound-image data corresponding to 3 three-dimensional volumes sequential

detected images to 4 three-dimensional volumes and interpolating ultrasound-image data corresponding to 3 three-dimensional volumes sequential detected images to 5 three-dimensional volumes.

5. (Canceled)

6. (Canceled)

7. (Previously presented) The ultrasound imaging device of claim 1, wherein the interpolation comprises at least one of straight line, parabolic, stepped, cubic, FIR (Finite Impulse Response) and IIR (Infinite Impulse Response) interpolation.

8. (Currently amended) A method of processing ultrasound imaging data, comprising:
creating up sampled ultrasound image three-dimensional volumes in a time dimension
from a plurality of three-dimensional volumes using interpolation;
storing at least one of the three-dimensional volumes and the up sampled ultrasound image three-dimensional volumes; and
rendering the up sampled ultrasound image three-dimensional volumes into display data,
wherein creating the up sampled ultrasound image three-dimensional volumes comprises interpolating ~~the plurality of three-dimensional volumes derived from~~ ultrasound image data corresponding to at least two sequential detected images to obtain at least one interpolated three-dimensional volume.

9. (Previously presented) The method of processing ultrasound imaging data of claim 8, further comprising:
sending ultrasound waves, gathering reflected ultrasound waves and creating raw ultrasound data; and
converting the raw ultrasound data to the plurality of three-dimensional volumes.

10. (Previously presented) The method of processing ultrasound imaging data of claim 8, further comprising:
displaying the rendered display data.

11. (Currently amended) The method of processing ultrasound imaging data of claim 8, wherein interpolating the plurality of three-dimensional volumes comprises at least one of interpolating ultrasound-image data corresponding to 2 three-dimensional volumes sequential detected images to 4 three-dimensional volumes, interpolating ultrasound-image data corresponding to 3 three-dimensional volumes sequential detected images to 4 three-dimensional volumes and interpolating ultrasound-image data corresponding to 3 three-dimensional volumes sequential detected images to 5 three-dimensional volumes.

12. (Canceled)

13. (Canceled)

14. (Previously presented) The method of processing ultrasound imaging data of claim 8, wherein interpolating the plurality of three-dimensional volumes comprises at least one of straight line, parabolic, stepped, cubic, FIR (Finite Impulse Response) and IIR (Infinite Impulse Response) interpolation.

15. (Currently amended) A system for three-dimensional ultrasound imaging, comprising:

an interpolator that interpolates ~~three-dimensional objects derived from three-dimensional coordinates of ultrasound image data~~ corresponding to at least two sequential detected images in an image data stream to obtain at least one interpolated three-dimensional object, providing up sampled three-dimensional objects in a time dimension for an increased frame rate; and

a memory that stores at least one of the three-dimensional ultrasound image data and the up sampled three-dimensional objects.

16. (Previously presented) The system for three-dimensional ultrasound imaging of claim 15, further comprising:

a probe that sends ultrasound waves, gathers reflected ultrasound waves and creates the ultrasound image data; and

a processor that converts the ultrasound image data to the three-dimensional coordinates.

17. (Previously presented) The system for three-dimensional ultrasound imaging of claim 15, further comprising:

a render engine that renders display data from the up sampled three-dimensional objects; and

a display device that displays the rendered display data.

18. (Currently amended) The system for three-dimensional ultrasound imaging of claim 15, wherein the interpolation comprises at least one of interpolating three-dimensional coordinates corresponding to 2 three-dimensional objects sequential detected images to 4 three-dimensional objects, interpolating three-dimensional coordinates corresponding to 3 three-dimensional objects sequential detected images to 4 three-dimensional objects and interpolating three-dimensional coordinates corresponding to 3 three-dimensional objects sequential detected images to 5 three-dimensional objects.

19. (Canceled)

20. (Previously presented) The system for three-dimensional ultrasound imaging of claim 15, wherein the interpolation comprises at least one of straight line, parabolic, stepped, cubic, FIR (Finite Impulse Response) and IIR (Infinite Impulse Response) interpolation.

21. (Currently amended) The ultrasound imaging device of claim 1, wherein the interpolation comprises interpolating ultrasound-image data corresponding to 2 sequential detected images ~~three-dimensional volumes~~ to 3 three-dimensional volumes.

22. (Currently amended) The method of processing ultrasound imaging data of claim 8, wherein interpolating the plurality of ~~three-dimensional volumes~~ comprises interpolating ultrasound-image data corresponding to 2 ~~three-dimensional volumes~~ sequential detected images to 3 three-dimensional volumes.

23. (Currently amended) The system for three-dimensional ultrasound imaging of claim 15, wherein the interpolation comprises interpolating three-dimensional coordinates corresponding to 2 ~~three-dimensional objects~~ sequential detected images to 3 three-dimensional objects.